

WHAT IS CLAIMED AS:

1. A network system for management of hierarchical service and content distribution via directory enabled network, comprising:

at least one level 4 service manager responsible for management of multiple content delivery networks;

at least one level 3 service manager responsible for management of one of the content delivery networks having multiple data centers;

at least one level 2 service manager responsible for management of one of the data centers having multiple server farms or service engine farms; and

at least one level 1 service manager for establishing a directory information routing protocol with the at least one level 2 service manager.

2. The network system of claim 1, wherein each server of the server farm is connected by LAN Ethernet Switch Network that supports a layer 2 multicast operations.

3. The network system of claim 1, wherein each server of the server farm is connected by the Infiniband switch.

4. The network system of claim 1, wherein data passing through the data center can go through an IPSEC tunnel to guarantee privacy and security, so as to even form a VPN among the data centers.

5. The network system of claim 1, wherein the at least one level 1 service manager is managed to establish a directory gateway protocol connection with at least one of the at least one level 2 service manager, the at least one level 2 service manager is managed to establish a directory gateway protocol connection with at least one of the at least one level 3 service manager, the at least one level 3 service manager is managed to run as a DNS server, which directs a user's request to a different data center as a geographical load balancing, and the service manager of the origin at server farm is also managed to establish a directory gateway protocol connection with the parent service manager thereof.

6. A network system for management of hierarchical service and content distribution via directory enabled network comprising:

at least one level 4 service manager responsible for management of multiple content delivery networks and storing content location information of the at least one content delivery network;

at least one level 3 service manager responsible for management of one of the content delivery networks having multiple data centers, wherein each of the at least one level 3 service manager stores the content location information of the corresponding content delivery network, and the content information of data centers ;

at least one level 2 service manager responsible for management of one of the data center having multiple server farms or service engine farms, wherein each of the at least one level 2 service manager of the data center stores only the content location information of the corresponding data center; and

5 at least one level 1 service manager for establishing a directory information routing protocol with the at least one level 2 service manager, so as to manage each of the server farms, wherein the at least one level 1 service manager and the at least one level 2 service manager are created through a LAN multicast and a link state routing protocol's opaque link state packet flooding with service information.

10 7. The network system of Claim 6, wherein each server of the server farm is connected by LAN Ethernet Switch Network that supports a layer 2 multicast operations .

8. The network of Claim 6, wherein each server of the server farm is connected by the Infiniband switch.

15 9. The network of Claim 6, wherein data passing through the data center can go through an IPSEC tunnel to guarantee privacy and security, so as to even form a VPN among the data centers.

20 10. The network of Claim 6, wherein the at least one level 1 service manager is managed to establish a directory gateway protocol connection with at least one of the at least one level 2 service manager, the at least one level 2 service manager is managed to establish a directory gateway protocol connection with at least one of the at least one level 3 service manager, the at least one level 3 service manager is managed to run as a DNS server, which directs a user's request to a different data center as a geographical load balancing, and the service manager of the origin at server farm is also managed to establish a directory gateway protocol connection with the parent service manager thereof.

25 11. A method for management hierarchical service and content distribution via a directory enabled network including at least one level 4 service manager, at least one level 3 service manager, at least one level 2 service manager, and at least one level 1 service managers comprising the steps of:

30 managing at least one content delivery network having multiple data centers and storing the content location information of the at least one content delivery network;

managing the data centers having multiple server farms or service engine farms; and

establishing a directory information routing protocol between the at least one level 1 service manager and the at least one level 2 service manager, and managing each of the server farms.

Ref. 21326

12. The method of claim 11, further comprising a step of establishing a directory gateway protocol connection between the at least one level 2 service manager and at least one of the at least one level 3 service manager.

5

10

15

20

25